

- ~~9.~~ An electromagnetic field sensor as described in Claim 8, wherein the sensor consists essentially of two layers of magnetostrictive material sandwiching one layer of piezoelectric material.

~~10.~~ An electromagnetic field sensor as described in Claim 8, wherein the sensor consists essentially of two layers of piezoelectric material sandwiching one layer of magnetostrictive material.

~~11.~~ A magnetic field sensor as described in Claim 8, wherein the sensor is utilized to measure electrical current

~~12.~~ A magnetic field sensor as described in Claim 8, wherein a sensitivity of the sensor is proportional to a thickness of the piezoelectric layer and substantially independent of an area of the sensor when a high impedance readout circuit is used.

~~13.~~ A magnetic field sensor comprising at least one layer of magnetostrictive material that strains under the influence of a magnetic field and imparts stress to at least one layer of piezoelectric material to produce a detectable voltage, wherein the sensor is supported as a cantilever in which one end of the sensor is allowed to strain freely to thereby increase the sensitivity.

~~14.~~ A magnetic field sensor comprising at least one layer of magnetostrictive material that strains under the influence of a magnetic field and imparts stress to at least one layer of piezoelectric material to produce a detectable voltage, wherein the magnetostrictive material forms a substrate.

~~15.~~ A magnetic field sensor as described in Claim 14, wherein the magnetostrictive material is a ferrite.

~~16.~~ A magnetic field sensor comprising a substrate of magnetostrictive material that strains under the influence of a magnetic field and imparts stress to at least one patterned stripe of electrically insulating piezoelectric material to produce detectable voltage.

~~17.~~ A magnetic field sensor as described in Claim 16, wherein the magnetostrictive material is a ferrite.